

## In this issue

Min Fu, Weiling Luan, Shan-Tung Tu and Leslaw Mleczko

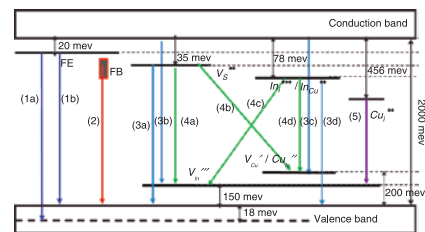
### Optimization of the recipe for the synthesis of $\text{CuInS}_2/\text{ZnS}$ nanocrystals supported by mechanistic considerations

DOI 10.1515/gps-2016-0025

Green Process Synth 2017; 6: 133–146

**Original article:** A facile and scalable method for synthesizing CIS/ZnS QDs using DDT and TOP as ligands during ZnS shell growth was developed.

**Keywords:** core/shell;  $\text{CuInS}_2$ ; ligands; process optimization; quantum dots.



Saravana Periaswamy Sivagnanam, Adane Tilahun Getachew, Jae Hyung Choi, Yong Beom Park, Hee Chul Woo and Byung Soo Chun

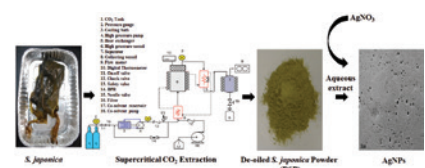
### Green synthesis of silver nanoparticles from deoiled brown algal extract via Box-Behnken based design and their antimicrobial and sensing properties

DOI 10.1515/gps-2016-0052

Green Process Synth 2017; 6: 147–160

**Original article:** Optimized conditions for the synthesis of silver nanoparticles (AgNPs) through green technology were developed and the antimicrobial and sensing properties of the AgNPs studied.

**Keywords:** antimicrobial activity; Box-Behnken design; deoiled *Saccharina japonica*; green synthesis; response surface methodology; silver nanoparticles.



Hanane Akram, Cecilia Mateos-Pedrero, Esteban Gallegos-Suarez, Tarik Chafik, Antonio Guerrero-Ruiz and Inmaculada Rodríguez-Ramos

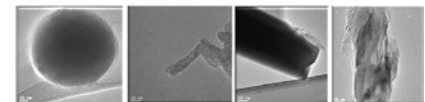
### Effect of surfactant concentration on the morphology of $\text{Mo}_x\text{S}_y$ nanoparticles prepared by a solvothermal route

DOI 10.1515/gps-2016-0045

Green Process Synth 2017; 6: 161–171

**Original article:** A surfactant-assisted one-pot solvothermal route to prepare  $\text{Mo}_x\text{S}_y$  nanoparticles with different morphologies was reported.

**Keywords:**  $\text{MoS}_2$ ; nanospheres; nanotubes; solvothermal synthesis; surfactant.



Thokozani Xaba, Makwena J. Moloto, Mundher Al-Shakban, Mohammad A. Malik, Nosipho Moloto and Paul O'Brien

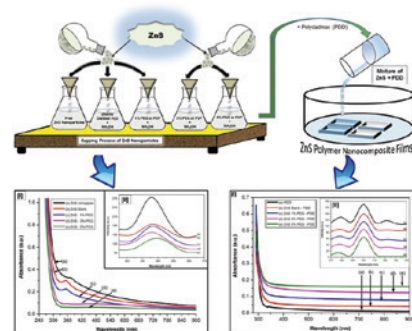
**The influences of the concentrations of “green capping agents” as stabilizers and of ammonia as an activator in the synthesis of ZnS nanoparticles and their polymer nanocomposites**

DOI 10.1515/gps-2016-0089

Green Process Synth 2017; 6: 173–182

**Original article:** The capping process of nanoparticles at different concentrations and the fabrication of polymer nanocomposites is presented.

**Keywords:** activator; ammonium solution; PEG; polyadamac; PVP; zinc sulfide nanoparticles.



Nokwethemba Precious Sibiyi and Makwena Justice Moloto

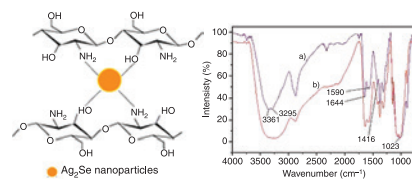
**Shape control of silver selenide nanoparticles using green capping molecules**

DOI 10.1515/gps-2016-0057

Green Process Synth 2017; 6: 183–188

**Original article:** A green synthetic approach is reported using environmentally friendly capping molecules (green tea, glucose, ascorbic acid and chitosan) to prepare different sizes and shapes of silver selenide nanoparticles.

**Keywords:** capping agents; nanoparticles; orthorhombic phase; silver selenide.



György Keglevich, Zita Rádai and Nóra Zsuzsa Kiss

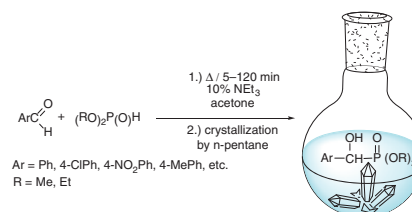
**To date the greenest method for the preparation of  $\alpha$ -hydroxyphosphonates from substituted benzaldehydes and dialkyl phosphites**

DOI 10.1515/gps-2016-0125

Green Process Synth 2017; 6: 197–201

**Original article:** Utilizing the Pudovik reaction, a general procedure applying 10% of triethylamine as the catalyst and a minimum quantity of acetone as the solvent has been developed for the synthesis of  $\alpha$ -hydroxyphosphonates obtained in a crystalline form following the addition of some *n*-pentane and crystallization.

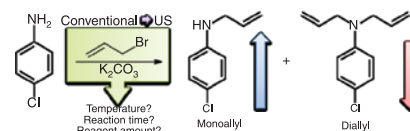
**Keywords:**  $\alpha$ -hydroxyphosphonates; green synthesis; green work-up; Pudovik reaction.



Lillian Ferreira Santos Nascimento and  
João Paulo Santos Fernandes  
**Factorial study to assess an  
ultrasonic methodology for the  
allylation of 4-chloroaniline**

DOI 10.1515/gps-2016-0122  
Green Process Synth 2017; 6: 203–209

**Original article:** A useful ultrasonic method is presented to avoid the diallylation of anilines as well as reduce reaction time and energy consumption.



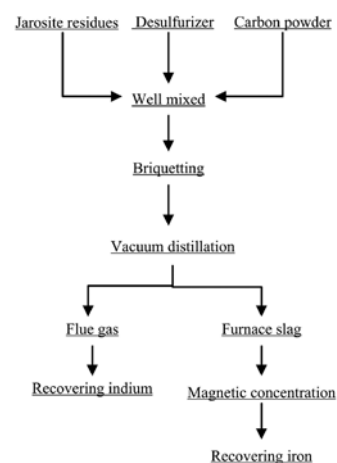
**Keywords:** factorial design; *N*-allyl-4-chloroaniline; *N*-allylation; ultrasonic bath; ultrasound-assisted synthesis.

Hongzhou Ma, Chao Yan, Yaoning Wang and Hongwei Xie  
**Statistical analysis and optimization of recovering indium from jarosite residue with vacuum carbothermic reduction by response surface methodology (RSM)**

DOI 10.1515/gps-2016-0084  
Green Process Synth 2017; 6: 211–216

**Original article:** This paper is focused on finding an efficient and environmentally friendly method of recovering indium from jarosite residues.

**Keywords:** ANOVA; indium; jarosite residue; RSM; vacuum.



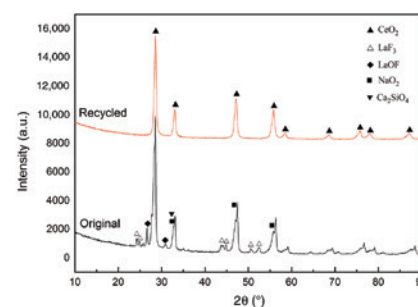
Process flow diagram of recovering indium from jarosite residues

Shuaidan Lu, Shuchen Sun, Xiaoxiao Huang, Ganfeng Tu, Xiaoping Zhu and Xianghui Kong  
**Optimization of recovering cerium from the waste polishing powder using response surface methodology**

DOI 10.1515/gps-2016-0030  
Green Process Synth 2017; 6: 217–224

**Original article:** Extracting cerium from rare earth polishing powder by thiourea reducing and hydrochloric acid leaching is explored in this work.

**Keywords:** cerium; leaching; recovery; thiourea; waste rare earth polishing powder.



Vladimira Vytlačilova

**Testing ecological suitability for the utilization of recycled aggregates**

DOI 10.1515/gps-2016-0074

Green Process Synth 2017; 6: 225–234

**Original article:** The article presents the results of an experimental program focused on the monitoring of the environmental sustainability of recycled aggregates based on their chemical composition and the content of harmful substances.



**Keywords:** construction and demolition waste; ecotoxicological tests; environmental risks; hazardous substances; recycled aggregates.

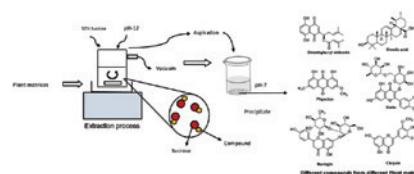
Shankar Subramaniam and Aravind Sivasubramanian

**An alternative green separation process for the pure isolation of commercially important bioactive molecules from plants**

DOI 10.1515/gps-2016-0072

Green Process Synth 2017; 6: 235–244

**Original article:** A safe, green method for isolation of pure nutraceutical plant molecules from different plants was developed using a unique green solvent, alkaline sucrose, which finally yielded molecules with better recovery (= 88–92%) and purity (= 89–98%).



**Keywords:** alkaline sucrose; Box-Behnken; nutraceuticals; plant molecule separation; process development.

Safwan M. Fraihat

**Green methods for the determination of nitrite in water samples based on a novel diazo coupling reaction**

DOI 10.1515/gps-2016-0005

Green Process Synth 2017; 6: 245–248

**Original article:** Green, sensitive and selective spectrophotometric methods were developed for the determination of nitrite in water samples.

**Keywords:** 5-nitroimidazoles; green; nitrite; pyrogallol (PG); spectrophotometric; water.

